AMENDMENTS

Claim amendments:

1. (Currently Amended) A superconducting cable comprising:

a cable core having a superconducting conductor;

a thermal insulation pipe accommodating the cable core, a forward path of a coolant channel being formed ~~in~~ by the thermal insulation pipe; and

a coolant return pipe disposed beside the cable core in the thermal insulation pipe and functioning as a backward path of the coolant channel.

2. (Previously Presented) A superconducting cable according to claim 1, wherein the coolant return pipe is a corrugated metal pipe.

3. (Previously Presented) A superconducting cable according to claim 1, wherein a coolant inlet for supplying a coolant into the thermal insulation pipe is disposed at one end of the thermal insulation pipe;

near the coolant inlet, one end of the coolant return pipe opens to the outside of the thermal insulation pipe; and

at other end of the thermal insulation pipe, the other end of coolant return pipe communicates to the inside of the thermal insulation pipe.

4. (Previously Presented) A superconducting cable according to claim 2, wherein a coolant inlet for supplying a coolant into the thermal insulation pipe is disposed at one end of the thermal insulation pipe;

near the coolant inlet, one end of the coolant return pipe opens to the outside of the thermal insulation pipe; and

at other end of the thermal insulation pipe, the other end of coolant return pipe communicates to the inside of the thermal insulation pipe.

5. (Currently Amended) A superconducting cable according to ~~either~~ claim 1, wherein a coolant inlet for supplying a coolant to the coolant channel is disposed at one end of the thermal insulation pipe, and a coolant outlet for taking out the coolant from inside the thermal insulation pipe is disposed at the other end of the thermal insulation pipe; and

wherein near the coolant inlet, one end of the coolant return pipe opens to the outside of the thermal insulation pipe, and at the other end of the thermal insulation pipe, the other end of the coolant return pipe opens to the outside of the thermal insulation pipe such that the coolant outlet and the other end of the coolant return pipe are connected to communicate with each other.

6. (Currently Amended) A superconducting cable according to ~~either~~ claim 2, wherein a coolant inlet for supplying a coolant to the coolant channel is disposed at one end of the thermal insulation pipe, and a coolant outlet for taking out the coolant from inside the thermal insulation pipe is disposed at the other end of the thermal insulation pipe; and

wherein near the coolant inlet, one end of the coolant return pipe opens to the outside of the thermal insulation pipe, and at the other end of the thermal insulation pipe, the other end of the coolant return pipe opens to the outside of the thermal insulation pipe such that the coolant outlet and the other end of the coolant return pipe are connected to communicate with each other.

7. (New) A superconducting cable comprising:

a cable core having a superconducting conductor;

a thermal insulation pipe accommodating the cable core, a forward path of a coolant channel being formed in the thermal insulation pipe outside of the cable core; and

a coolant return pipe disposed beside the cable core in the thermal insulation pipe and functioning as a backward path of the coolant channel.

8. (New) A superconducting cable according to claim 7, wherein the coolant return pipe is a corrugated metal pipe.

9. (New) A superconducting cable according to claim 7, wherein a coolant inlet for supplying a coolant into the thermal insulation pipe is disposed at one end of the thermal insulation pipe;

near the coolant inlet, one end of the coolant return pipe opens to the outside of the thermal insulation pipe; and

at other end of the thermal insulation pipe, the other end of coolant return pipe communicates to the inside of the thermal insulation pipe.

10. (New) A superconducting cable according to claim 8, wherein a coolant inlet for supplying a coolant into the thermal insulation pipe is disposed at one end of the thermal insulation pipe;

near the coolant inlet, one end of the coolant return pipe opens to the outside of the thermal insulation pipe; and

at other end of the thermal insulation pipe, the other end of coolant return pipe communicates to the inside of the thermal insulation pipe.

11. (New) A superconducting cable according to claim 7, wherein a coolant inlet for supplying a coolant to the coolant channel is disposed at one end of the thermal insulation pipe, and a coolant outlet for taking out the coolant from inside the thermal insulation pipe is disposed at the other end of the thermal insulation pipe; and

wherein near the coolant inlet, one end of the coolant return pipe opens to the outside of the thermal insulation pipe, and at the other end of the thermal insulation pipe, the other end of the coolant return pipe opens to the outside of the thermal insulation pipe such that the coolant outlet and the other end of the coolant return pipe are connected to communicate with each other.

12. (New) A superconducting cable according to claim 8, wherein a coolant inlet for supplying a coolant to the coolant channel is disposed at one end of the thermal insulation pipe, and a coolant outlet for taking out the coolant from inside the thermal insulation pipe is disposed at the other end of the thermal insulation pipe; and

wherein near the coolant inlet, one end of the coolant return pipe opens to the outside of the thermal insulation pipe, and at the other end of the thermal insulation pipe, the other end of the coolant return pipe opens to the outside of the thermal insulation pipe such that the coolant outlet and the other end of the coolant return pipe are connected to communicate with each other.